# Stream Tender Magazine

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November 2018 Issue

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Articles by : Guy Woods and Contributors

## Planted Willows Are Providing Great Overhead Cover

Native willows and trees that were planted along the water's edge on Nose Creek, West Nose Creek and Bighill Creek are now providing shade and overhead cover for resident fish, including trout. This is classified as trout habitat, so we can add that to the list of our accomplishments in our riparian planting program.

Every year that we plant, we are creating new fish habitat, which will mean more trout in future years, if they fishery is managed properly. Planting native willows and trees right along the water's edge, on small spring creeks, is a super good way of creating fish habitat, at a low cost, which is always an important factor!

**Above:** *These willows were planted on the stream bank on Bighill Creek, four years earlier, and they are now providing overhead cover.*

## The Signs Of A Beautiful Fall - Brook Trout Spawning

The most beautiful trout to spawn in our local streams is the brook trout. The male brook trout develops brilliant colors during the later part of the open water season, in preparation for its spawning ritual. Dark olive, with a splash of bright red, orange and white make the trout easy to spot in the shallow water where they spawn a new generation of trout eggs.

The clear flowing headwater springs are the best location to observe the colourful brook trout, while they spawn. The murky waters of the main stem of creeks like Bighill Creek makes it harder to spot them on the bottom of the stream channel, over gravel beds, where they lay their eggs.

Both brook trout and brown trout are very colourful during the fall spawning season. It is something that I look forward to watching every year.

## Student Volunteer Planters Commit To 2019 Planting Season

Bow Valley Habitat Development has already received a commitment to participate for the 2019 planting program. CW Perry Middle School has planted on Nose Creek during the 2017 and 2018 program, and they are now confirmed for the 2019 planting program in the City of Airdrie, Alberta.

The middle school students are great planters and their contribution will be something to admire into the future, when the small native plants start to shape the landscape along Nose Creek. The students walk from their nearby school to plant, so they will also be in a position to inspect the results in future years.

The annual planting event also provides some environmental education to add extra interest to the school class outing.

## Bow Valley Riparian Recovery and Enhancement Program - Update

It has been five years of planting in the BVRRE Program so far and we are starting to see some promising results. The plantings we did three and four years ago are starting to grow large enough that they stand out in a photo.

By planting right along the water's edge, new habitat is being created by the native willow and tree varieties used in the riparian planting program. Both the volunteer planters and the partners in the program have been waiting patiently for their investment in time and dollars to show some positive benefits, and this is now happening along the stream in the program.

Bow Valley Habitat Development will continue to showcase some of these great results in future publications of this magazine and the Stream Tender Blog site. Our video contributions will continue on YouTube as well.

## Spawning Trout Numbers Are Down On Bighill Creek This Year

There is a definite decline in the number of mature trout spawning in the main channel of Bighill Creek these days. Even the brook trout that were spawning this fall were smaller in size, than in previous years. I could count the number of large brown trout spawning on one hand this fall, which is alarming.

When the fishing regulation change went into place in 2017, from a one trout under 35 cm harvest to a two trout of any size daily limit, I knew trouble for the trout population was on its way. I contacted the local fisheries biologist and warned that the new regulation change was unsustainable on a small stream like the Bighill Creek, but my concerns were rejected.

Local fly fishers have been working to restore the fishery on Bighill Creek for many years now, and the lack of provincial support is very annoying; to say the least.

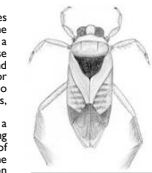
## Stream Bank Stabilization Sites - Coming Along Nicely

If there is one facet of our riparian recovery work that stands out, it would have to be the stream bank stabilization sites. By planting and stabilizing eroding slopes on the stream channel, we have reduced the amount of silt loading considerably. This has a direct positive benefit to the water clarity and the cleaning of the streambed, down to cobble and gravel in some areas.

Each and every year, tonnes of soil, clay and silt end up in the creek, due in part to collapsing slopes on the stream bank. These erosion sites are usually on the outside of bends, oxbows or meanders in the stream channel.

By planting our native willows and trees directly into the unstable soil on the eroding stream banks, we can create a network of roots to help hold the loose soil in place. Eventually, the willows and trees will provide overhead cover for resident trout. The new growth will also be prime nesting habitat for song birds, etc.

The newly planting willows only take a few years to totally stabilize the eroding stream bank and prevent tonnes of material from entering the stream. The differences that our planting has done on Bighill Creek, in the Town of Cochrane are significant, in just a few years.



## Native Willow and Tree Plants Grown From Cuttings

In the "Bow Valley Riparian Recovery and Enhancement Program" all of the native plants are from existing native stock in the watershed. Cuttings are collected, grown and then planted, so that indigenous plants can continue to dominate the watershed and maintain historic biodiversity in the riparian zone.

All of the cuttings are small in diameter and when they are collected, the source crop of willows and trees is left intact with little noticeable impact. Bow Valley Habitat Development prefers to use straight cuttings of a certain length, so not every branch is acceptable on a willow bush.

BVHD has been collecting cuttings from the same locations for years, without any complaints or damage to the existing natural landscape. The trimmings from the cuttings are gone from site after one year's growing cycle. The ground grasses cover the trimmings and they bio-degrade into the topsoil.

Using this method of planting, we can insure that only native varieties of willows and trees are used to restore riparian areas where no willows or trees are present. Invasive shrubs and trees can alter a streams entire eco-system if plants other than those that historically grew along the riparian areas of a river or creek.

***Left Photo:*** *This photo shows an eroding stream bank on the Bighill Creek, in the early spring, one year after it has been planted with native willows. You can seen how the soil is collapsing into the stream channel. The root systems from the snowberry shrub are too shallow to provide good stability.*

***Right Photo:*** *This photos shows the same stream bank, four years after planting of new willows along the water's edge. The root systems from the willows have totally stabilized the eroding stream bank site and they are already providing overhead cover for trout. Behind the willows, on the left side of the photo, the native snowberry shrubs are thriving. The snowberry provides excellent nesting habitat for water fowl and upland birds.*

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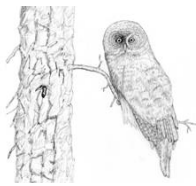

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## Signs of Progressive Growth - In The Bow Valley Riparian Planting Program

To showcase our riparian planting program, it takes years of growth. I usually tell the volunteer planters that they will have to wait five or six years to see an impact on the landscape, after their willow and tree planting efforts are completed. Not easy for those that are impatient, but the rewards will come with time.

Much of the soil chemistry along local flowing spring creeks is very poor. Years of flood events without deep root systems to hold the topsoil in place has resulted in a loss of most of the rich soil. Along much of the creek you will find a base of clay only a few centimetres down in the ground. This causes growth to be a very slow process on the planting sites.

However; there are some stretches of stream where the soil still maintains a fairly rich soil along the lateral margins of the creek, and the native willows and trees that have been planted are now growing good. It is nice to see such a good result after only three years.

West Nose Creek is a stream with a few of these richer soil conditions and we have witnessed fairly good growth in recent years. Native willows and trees that were planted in 2015 are now showing good growth along the water's edge, over the last three years, since they were planted. I enjoy sharing this news with the volunteers and partners in the program. This result helps build confidence in our riparian planting program, for years to come!

***Above:*** *This photo was taken in 2016, one year after the reach on West Nose Creek had been planted. You have to look closely to see the planted willows and trees.*

***Far Right:*** *The photo shown is the same reach of creek and it was taken in 2018, three years after the site was planted. You can clearly see the newly planted native willows and trees are doing well, along the stream channel. In a few more years they will stand out on the landscape, if the beavers don't get at them first. If beavers do graze on the new plants, they will continue to grow, so this would not be a major disaster.*

## Kingfisher Spotted And Photographed On Bighill Creek

It has been years since I last saw a Kingfisher along the Bighill Creek, so when photographer Chris Gornisiewicz told me he had taken a photo of one, I got really excited.

The last Kingfisher that I saw in this area was back in 1997 or 1998, in Canmore, along the lower reach of Canmore Creek. That sighting was quite an experience for me personally, because I have always admired the bird as a fellow fisher with such a talent for capturing small fish, while in flight. I have yet to witness this, but it may happen some day.

I am not an expert on Kingfishers, but I think that the one in Chris's collection of photos is a Belted Kingfisher. Their range extends from Canada down to Mexico. You find them where ever there is good fishing, just like us fly fishers.

The fact that Kingfishers are now being spotted along Bighill Creek, this is evidence that the fishery is still healthy at this time and it maybe into the future. Small trout and other forage fish are in the diet of a Kingfisher, along with other birds that feed on fish.

Good water quality is also a must for fish diving birds like the Kingfisher. I have witnessed Blue Herons on the lower reach of the Bighill Creek, at work fishing. Also, Mergansers and Grebes are occasionally spotted on the BH Creek's lower reach.

I will be especially vigilant in the future, for any spotting and photography opportunities for Kingfishers in the future, while walking the stream banks of the Bighill Creek, in Cochrane. Nice Job Chris and thanks for sharing.

***Above:*** *This Belted Kingfisher was photographed on the Bighill Creek by photographer Chris Gornisiewicz.*

## Small Brook Trout Are Better Than No Trout At All !

There are a few trout streams that I like to fish, where the brook trout don't get that large, but they provide great sport for a fly fisher. Yes, even a small trout on the end of your leader can make your day and add a smile to your face.

Brook trout have received a lot of bad press in recent years, due to the fact that they are blamed for the displacement of cutthroat trout on some streams. However, most of the streams where I fish for brook trout are clouded with dirty water during spring run-off. These streams would never support cutthroat trout anyway.

The cutthroat trout requires clean flowing streams where they can reproduce during the spring flows. Murky streams have too much silt flowing in the spring for cutthroat trout eggs to successfully incubate and hatch. So brook trout is a great alternative to cutthroat trout on some small flowing waters.

I love to fly fish for brook trout. They are egger to take a dry fly and some wet fly patterns are deadly for brook trout. A small Adams Dry Fly, fished on a short leader, on a small (short) fly rod, can keep you busy releasing trout all day. This is a great combo on a small trout stream, with a tight cover of willows that force short casts of your fly rod.

*Adams Dry*

My favourite choice of fly rod for a small brooky stream is a 7.5 foot—3 weight. I like to use a 7.5 foot leader or less. The shorter leaders I make up myself. A light weight line does not hit the water that hard, so short leaders are ok. You still have to make a good presentation on your cast, so the fly and line settle gently on the surface.

If it wasn't for the Eastern Brook Trout, we would be in bad shape on many very small flow spring creeks. The fish seems to have the ability to survive in streams where no other trout could. They can successfully spawn under conditions that no cutthroat, rainbow, bull or brown trout could.

On many of the stream enhancement projects that I have worked on over the years, the brook trout is usually my biggest customer. Stream Restoration Projects on Canmore Creek, Millennium Creek, Ranch House Spring Creek and a few more, have all had brook trout present during or after restoration was completed.

The small brook trout would move in immediately after a habitat was created. On some streams, a spawning habitat would be built and the brook trout would be spawning within the same year after completion. This was always great to witness, for me and for the volunteers or crew that worked on the projects.

The biggest threat to the brook trout populations these days, besides poor fisheries management, is water flows or the lack of it. It seems like everyone is tapping into our ground water springs for one reason or another.

Some acreage owners feel the need to tap into the nearby stream to pump water for their lawns or other wasteful purposes. The battle for water goes on, but who takes care of the trout? I look for support from our government agencies to insure our trout streams keep flowing.

***Above:*** *There are four brook trout in this photo. Can you find them? The trout are spawning in a shallow gravel tail-out, in water that is slightly turbid during the fall spawning season. I often wonder how many of the eggs hatch every year. The losses must be significant, due to the high volume of silt flowing down the stream each year. These small brook trout need all of the help that they can get, to maintain their numbers in this small trout stream.*

## Brook Trout Populations – Are They At Rick ?

This past winter, I confirmed a hatch of new brook trout on Millennium Creek. I was expecting to see these trout grow over the summer months, but something happened to their numbers. It was if they suddenly disappeared.

In areas of the creek where I would see high numbers of juvenile brook trout in the past, there was nothing moving in the water, on all of my visits. Normally, as I walked the stream bank, small trout would dart for cover and this was always a good sign. It meant that the new generation of trout was present and growing up during their first year.

The first thought of concern was that whirling disease had found its way into the small spring creek. This speculation was an alarming one to consider. If the spores of whirling disease were present in the area of the spawning habitats, we could see a major collapse of the trout population.

Juvenile trout are especially vulnerable to the spores of whirling disease, for the first weeks of their young lives. This is when the trout's spinal column has not yet hardened enough to be more resistant to penetration by the parasite.

As the trout fry grows, so does its natural immunity, to that first strike from the whirling disease infection's most damaging effects on spinal cartilage. The attack that leaves permanent deformity in the small fish.

This lack of small trout in the summer months has been on my mind constantly and I gone over all of the other possibilities. If there are enough larger trout present in the small stream, the young trout may be hiding from predation, unlike during previous years, when the small trout seemed to be a lot bolder.

Another thought about the lack of trout fry was that maybe the young fish had migrated downstream out of the creek. I can't think of any environmental impacts that would lead to this happening on the small spring creek, so I ruled this one off of the list.

Whatever the cause is for the lack of juvenile trout on Millennium Creek, I am hoping that we don't see a complete collapse of the brook trout populations on this stream. Over the last eleven years, the reproduction of trout on Mill. Creek has been an important component of our local trout fishery. Primarily, for the Bighill Creek, but some trout do migrate into the Bow River.

Maybe the success of the hatch this past winter was not as good as I thought. On the days that I visited the spawning habitats, I did spot and photograph some small brook trout larva. My assumption was that the hatch was very successful, as was the case in previous years when I spotted newly hatched trout. The true test will be evident in future years, when the trout that hatched this year, return to spawn.

## Rio Grande (Grizzly) King - A Great Late Season Dry Fly

The original Rio Grande King has brown hackle, but the grizzly hackle in this variation makes this fly pattern a very diverse dry for late season dry fly fishing. The combination of both brown hackle and grizzly have always been attractive to both trout and fly fishers. Take the Adams dry fly for example. The Adams calls for a mix of both brown and grizzly for the hackle, on the classic dry fly pattern.

I have found that the Black Trude, The Rio Grande King variations and the Royal Coachman Trude are all great choices for those lazy hot summer days in August on into September. I also like the fact that the wings on these patterns are easy to see when cast from a distance.

## A Net Full Of Gold

This brown trout was hanging around a beaver dam, sipping callibaetis mayflies, next to a partially submerged old poplar stump. The large trout hardly disturbed the surface as it sucked in the small adult mayflies. The water in the beaver dam was a little murky, but the trout had found a good spot to feed at in the pond. Pretty fish!

## Going Into Fly Tying Season - A Hobby For The Winter Months

There were years when I would tie trout flies all year long, with winter being my preferred tying season. Nowadays, I look forward to sitting at my fly tying station, tying flies, while the cold winter winds blow or a heavy snowfall is clearly visible out of my picture window. Fly tying is a pass time that usually starts for me in the month of November or December.

After years of collecting fly tying materials, I now have an excellent supply of the basics, including a huge supply of fly hooks. Fly hooks have continued to increase in price over recent years, so I decided some time ago to invest heavily in a good supply for tying in future years. As long as the hooks are sealed in plastic bags and stored in a dry place, they don't go bad over time.

It takes a long time of saving, to get a good selection of first class materials. Things like hackle capes, peacock herl, soft hackle and pheasant tail feathers, to name a few types of feathers, and various furs and dubbing are a must. These things are of major importance to the fly tier. Everything is stored in large rubber bins that are stacked in a corner of my tying room.

Fortunately, I have the opportunity to sell a few flies every year, so there is always a need to tie replacement flies to keep my stock up. These days I am trying to tie some of the more popular patterns for sale, and leave the personal choices for when I need them. Most fly fishers like to use patterns that they are familiar with, when they purchase a selection.

The old classic trout flies are especially fun to tie, and when I get going on a particular fly pattern, I end up with a supply that will last a few years. Fortunately, there are so many great fly patterns, you never get bored with what you are working on, as long as you don't overdo it. If you do get tired of one pattern, you just move on to another.

*The Red Streak*



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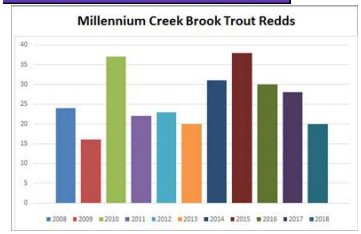
## Millennium Creek - A Consistent Producer Of New Trout Annually




***Above:*** *The chart shown is a record of spawning activity on Millennium Creek over the past eleven years, since the stream was restored.*

It has been eleven years now, since the Millennium Creek restoration project was completed. Nine years since the spawning channel was added to the creeks headwaters. Every year since the completion date, brook trout have been spawning in the newly restored spring creek.

Even in the poorest spawning season on Millennium Creek, a substantial number of mature trout have deposited their eggs and insured a healthy future for the trout population in the Bighill Creek's lower reach.

Small spring creeks like Millennium, are important to the fishery. Not only for the added spawning habitat, but also as nursery streams for young trout during those first vital years of growth. A safe habitat for very small trout fry, guarantees more trout for the future.

The consistent flows of pure water ground springs on Mill. Creek make it an ideal recruitment stream for the brook trout populations in our area. Since the Millennium Creek was rebuilt, there has been excellent flows in the springs, even on years when the rainfall was not as good as hoped.

There is significant silt loading in the stream, but despite this, the key spawning habitats have maintained a good annual hatch of new trout into the system. Silt loading comes primarily from a set of highway ditches, but this has been reduced in recent years by silt containment measures.

The threat of whirling disease is still high on the list, but so far, no confirmed case has been identified by observation yet. We need to direct all of our attention these days, at protecting trout habitat and water quality for spring creeks like Millennium Creek and others in the area.

## The October Caddis

Gary LaFontaine called it the "Late Great Summer Sedge", but to many fly fishers it was commonly known around these parts as the "October Caddis". On the Bow River, it starts hatching in late August and continues on into the first week of October.

Both the pupa and the adult have an orange color abdomen, and they are large in size. This makes them a prime target for trout as they begin their winter fattening, fall feeding frenzy. I tie the adult and pupa on a size 8 fly hook. The pupa is fished by stripping or a dead drift.

## Canary Grass And Willows - An Unusual Mix Of Riparian Growth

***Above:*** *A few poplar trees like the one shown above, are planted along the water's edge every planting season. Some of them will survive the beavers long enough to grow into mature trees. Poplars make excellent stream bank stabilizers. The root systems from poplar trees grow along stream banks in dense, thick networks. The trees are a great addition to a natural riparian habitat.*

Wherever we plant native willows and trees in canary grass, along the creek, the willow plants have a tough time competing with the tall, dense grass. However, once the willows have started and made it thru their first and second season, they will do ok.

The canary grass grows tall and in the fall, when it is dormant, it lays down along the water's edge and provides good overhead cover for trout. It is in the fall that you can finally see some of the smaller willows and trees that have been planted in recent years. This will change over time.

Again in the spring, when the new leaves start on the willow plants, they have the edge on getting an early start on the growing season. It is in early May, when the canary grass is still dormant that we like to plant our willows and trees on areas where canary grass grows.

On certain sites, the canary grass is just too dense for new willow and tree plants, but this is just part of riparian planting. In the next few years, I will be able to provide some better before and after photos of areas of canary grass that have been recently planted, with native willows and trees.

There are three different shoreline grasses that are difficult to plant new willows and trees in. Quack grass, Canary grass and Western water sedge are tough grasses to out compete. I know that the root systems on canary grass and sedge are so dense that it is probably hard for other plants to compete for nutrient and moisture.

Quack grass is a true survivor and it can grow under almost impossible conditions for other plants. I have found that planting in a patch of Quack grass is one of the hardest environments for native willows and trees to get started in. Tough areas to plant are a real challenge for the planters, in a riparian program.

***Above:*** *This length of stream channel was planted one year earlier. You can see why. The stream bank on the right has cracked and slid down toward the water in the creek. This is the first stage of an erosion site happening on the creek. As the frost leaves the shoreline, the sod will sometimes fracture and start to slide into the creek.*

***Above:*** *This photo was taken from the same position as the photo to the left. This is the stream bank — 4 years after it was planted with native willows. The willows are still competing with the canary grass, but they are now well established. In a few more years the willows will exceed the canary grass in height and stand out on the creek.*

## Animals Shelter In The Riparian Zone

Most of what I write about seems to focus mainly on trout, but because I spend a lot of time on the local streams, I often enjoy the sight of other wildlife that lives along the creeks and rivers in our part of the province. In particular, the Bighill Creek in the Town of Cochrane.

In recent years I have noticed that a few more mule deer bucks are venturing into the community, along the Bighill Creek, during the fall rut. In the mating season, the bucks become more bolder than normal, which in some cases can be a dangerous attitude for these male deer. Some end up getting hit by highway traffic.

For those that find a safe retreat along the creek, the general public benefits from common sightings along the path system. Last year I spotted and photographed a few large bucks. One of these photos made it into this magazine. However, even the smaller mule deer bucks are appreciated.

***Above:*** *This small four point mule deer buck, blends into the dense willow cover along the Bighill Creek. A great place to bed.*

## Another Nice Trout

After a quick photo, this brown trout was released back into the creek. This is normal practice for myself and those fly fishers that I like to fish with. It would be a shame to kill such a pretty trout, and not let the trout grow to its full mature size.

Catch and release is practised by those conservation minded anglers that believe in protecting and conserving our wild trout fishery. This is especially true on small flowing waters. Little creek trout fisheries can be decimated by harvest sport fishing. Sport fishing is a poor choice of words, for those that kill wild trout.

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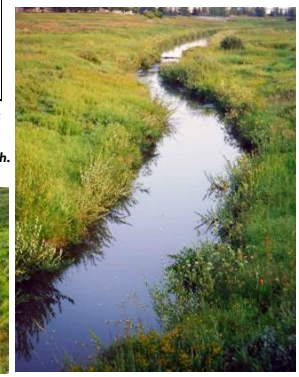
***This is what a planting site looks like, one year after planting. See the photo to the right for what happens over three years of growth.***

***After three years of growth on this site***



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## Bighill Creek - Where Have The Big Trout Gone?

In the fall of 2018, I notice an absence of larger brook trout and brown trout spawning on the lower reach of Bighill Creek. Having walked the creek during the spawning season for the last 10 or so years, I have a pretty good grasp on what type of spawning activity there has been in recent years.

In the fall of 2008 and 2009, I conducted accurate spawning surveys on Bighill Creek for a fisheries habitat study that I was working on. At that time I was surprised by the number of trout that were present in the lower reach of the Bighill Creek.

During the last decade, I have compiled a substantial library of both video and photos of spawning trout on BH Creek. I found a few of my favourite photos to accompany this article. It was common for me to observe larger brook trout and brown trout during the spawning season in past years. This was a good indicator of the health of the trout fishery and also confirmed that there were some nice big trout to fly fish for during the open water season, from opening day thru to the closure in the fall.

Also over that 10 year period, the trout fishery in BH Creek was protected by a very limiting harvest of trout. One trout under 35 cm per day was the rule, but even this minimal harvest made me uncomfortable. If you allow any type of harvest on a small trout stream, you are opening the door for trout poachers. It is sad, but true.

In my opinion, having any type of harvest on a wild trout stream, which is located so close to major populations of people, is very poor fisheries management. The days of living off of the land are long gone, around these parts. Maybe if you are living in northern Alberta or in the Yukon, you can harvest fish from waters that rarely see another human being. Around here, the stream banks are worn with heavy foot traffic, so killing trout is unsustainable.

To me, there is real beauty in having a healthy trout stream in your neighbourhood, and other wild animals can live and thrive with a good population of trout to sustain them. Having a two trout harvest is ridiculous and the fishery will teeter on the brink of collapse.

***Above:*** *This old photo shows two large brook trout spawning on BH Creek in 2011.*
***Far Left:*** *This photo shows three large brown trout spawning over a habitat on BH Creek in 2012. At the time there was a good population of mature brown trout on the creek, but nowadays there are only a few left.*

## The Inverted Dragon

If you are planning a trip to fly fish a trout lake in the later part of July and into the month of August, you had better be sure to have a selection of dragonfly nymphs in your fly box. When this nymph is active, prior to emergence and during the transformation, trout will focus on the large meal with a greedy frenzy of predatory feeding.

Dark brown, olive and tan colors are the primary selection for hatches of darner dragons, so make sure you have some. I like to tie some of my patterns inverted so they can be dragged along the weedy bottom without snagging, or skipped across the weed tops in short bursts. The trout will even take a dragon on a strike indicator.

## Planting On Eroding Stream Banks - Before And After

It is important that a good selection of photos be taken on stream bank erosion sites, before or just after planting, and then again a few years later. This is the best method of demonstration, to showcase stream bank stabilization projects. Bow Valley Habitat Development has a good library of both video and photos filed for future use.

Over the next few years, you will have the opportunity to view a lot more before and after photo comparisons. Now that the first crops of native willows and trees that we planted since 2014, are now getting mature enough to show some very positive results.

I like using the stream bank stabilization sites for before and after comparison. They are the most dramatic of all. Planting on exposed eroding stream banks makes it easier to show the new plants just after planting or one year later. There are no other plants to hide the newly planted willows and trees on the exposed soil.

Once native willows and trees are planted, the soil on eroding stream banks is stable enough for other grasses and riparian plants to establish themselves along the water's edge. This just adds more root systems that help keep the bank from sliding and this cover also catches soil that is still sliding above the stabilized buffer.

The other plants that start growing may include some weeds, but over time, these will be crowded out by native plants. Willows can eventually dominate the planting zone, over time. The willows will also spread upslope of the planting zone over future years of growth. This will likely occur once the slope has completely stabilized, with a less extreme gradient.

Bighill Creek, in the Town of Cochrane, Alberta, has received the longest planting program that Bow Valley Habitat Development has been involved with, so the bank stabilization sites are more advanced along the creek's lower reach. The BH Creek is also close to where I live, so inspection photos are always available.

***Left photo:*** *This photo shows an eroding stream bank on BH Creek, just after planting. This was a major soil and clay loading site, on the creek channel.*

***Top photo:*** *This is the same stream bank, four years after planting. You can see that grasses have also grown in with the newly planted willows on the site. This created a great buffer zone at the base of the slope. Over time the growth will spread upslope.*

## The Beautiful Fall German Brown Trout

Last fall, while stopping on a pathway bridge over the BH Creek, resting my arms on the bridge railing, I looked down into the clear fall flows of the creek. To my surprise I was suddenly attention by a rather large resident stream trout that was directly below me, half hidden in a swaying clump of aquatic weeds.

The trout was not too concerned about my presence, directly above it, and I figured I knew why. It was spawning season for the German brown trout, and because of this the large trout was focused on other more important things. On that particular morning, for some reason, I didn't have my camera with me, so there went another missed opportunity.

Fall is a good time for the trout photographer that is interested in getting photos of brook trout and brown trout. In most fall conditions, the water will be flowing relatively clean, so getting photos in shallower water is easier. But you don't usually have very much cover to hide your approach, by the time the leaves are gone from the trees and willows.

I am often out walking along the local streams, doing redd counts, as part of an annual spawning survey. This provides me with many opportunities to find trout and photograph them. On some occasions, I will also collect some video footage. It is kind of like a hunt for me, similar to fly fishing, in a way.

The brown trout has a natural resistance to whirling disease, so we can expect that there will always be some of these beautiful trout populating our local trout streams. Most of the projects that I have worked on, in recent years, are focused on brook trout. However, the brown trout will also benefit over time, due to the habitat that has been created along area creeks. I am talking about our riparian planting program of course.

The more thick willow and tree cover that is present along the water's edge on Bighill Creek and West Nose Creek, the better the habitat for the resident brown trout. This motivates me to continue with our riparian enhancement work. I look forward to fishing some of the planting sites eventually, some day. I hope that the brown trout will still be around then, to feed on my trout fly.

***Above:*** *This extra fat German brown trout is hold over a spawning redd (nest). The water was only a few inches above the trout's back, when I took this photo.*

## Beaver Dams Make A Good Wintering Habitat For Trout

Before the ice starts to cover our local trout streams, the resident trout migrate into deep water pools to spend the winter months under the hard surface. If flows are low on a small trout stream, beaver dams become especially important for wintering trout.

Beaver dams that flood the stream banks for some distance upstream, are great wintering habitats. The greater the length of flooded, deep channel, the more food and holding habitat there is for resident trout.

When the ice breaks in the spring, trout will disperse up and downstream of beaver dams. Some trout will stay put in the dams as well. There are many other benefits that beaver dams are good for, when it comes to trout stream ecology as well. For example; all of the woody debris that beaver dams provide into a stream channel, contribute to fish habitat in the future. Even after the dams are long gone.

*" Beaver dams are great for small trout streams. They provide wintering habitats and contribute to other types of fish habitat. However, their numbers still need to be managed if stands of mature trees are too be protected. Especially in Towns and Cities, where beaver numbers can grow."*



## Woody Debris In Streams Is Beneficial As Trout Habitat

Wood Branches, tree trunks and root wads can be washed into a stream channel. This may occur during floods, or as high water moves remnants of old beaver dams downstream. Sometimes, just beaver activity will result in larger trees falling into or over the stream channel. Bottom line; this floating woody debris creates fish habitat.

In the **right photo;** you can see how floating woody debris has enhanced a small pool habitat along the creek. For a trout fly fisher, this is always a welcome sight along a section of creek. The submerged branches also enhance invertebrate habitat, which is a trout's food supply.